



Morphometric Parameters of the Maxillofacial Region of Children with Cerebral Palsy before Correction with Various Dental Correctors and Compare to the Data of Healthy Children Taking into Account Gender

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Abstract: The frequency of dental anomalies among children with cerebral palsy, depending on the etiofactor and on improving methods of their prevention and early treatment.

Key words: Morphometric, children, Healthy.

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As it is known from the literature, 70% of children with cerebral palsy have oral respiration. (Persin L.S.//Orthodontics.-2003.-p.94-106.) Oral respiration leads to disruption of the activity of the facial muscles, the circular muscles of the mouth, tongue and to the development of dental anomalies (PCA). Disorders of myodynamic balance are observed between the buccal, masticatory, temporal and sublingual muscles. The myodynamic balance can be disturbed between the circular muscle of the mouth, the chin and the muscles of the bottom of the oral cavity. If the respiratory function is impaired, the activity of the circular muscle of the mouth increases several times compared to the norm, and its endurance decreases significantly.

In the available literature, we could not find detailed information about the morphometric parameters of the head and body of children with cerebral palsy and the relationship of these parameters with the functional state of the masticatory muscles. As well as the state of the antrometric parameters of the CHLO after correction with dental correctors

The goal. Our study was to study the morphometric parameters of the head and maxillofacial region of children with cerebral palsy before and after the use of various dental correctors.

Research objectives:

1) Study the anthropometric parameters of the head of children with cerebral palsy and compare them with the data of healthy children

- 2) Study the morphometric parameters of the maxillofacial region of children with cerebral palsy before correction with various dental correctors and compare them to the data of healthy children, taking into account gender
- 3) Study the functional state of the masticatory muscles in children with cerebral palsy, and compare them with the myographs of the masticatory muscles of healthy children.
- 4) to compare the morphometric parameters of the maxillofacial region of children with cerebral palsy before and after correction with various dental correctors.

Anthropometric indicators of girls aged 7-18 in Nalchik are the first to reach the peak of the speed of the length of the lower limb (from 5.2 to 5.6%) from 8 to 11 years, and at 9-10 years, girls have a jump in the growth of the length of the upper limb (5.1 and 5.0%, respectively). At 10-12 years of age, body weight is growing intensively (from 11.5 to 16.4%), at 11-12 years of age - the circumference of the chest (6.2 and 6.9%) and the transverse diameter of the chest (4.9 and 4.2%). The maximum increase in girls aged 12 was found among the following sizes, pelvic width (8.9%), shoulder width (6.3%), body length (5.4%) and body length (7.6%). Among all the studied anthropometric parameters, the greatest variability was found in the body mass index in 12-year-old girls [3].

Girls Uzbek aged 7 dot 12 years of longitudinal size of the head is increased from 24.0 ± 0.1 to 26.2 ± 0.2 cm; cross – respectively: from 19.4 ± 0.1 to 19.9 ± 0.2 cm; vertical – from 15.5 ± 0.2 to 19.1 ± 0.2 cm In girls from 7 to 12 years old, the head circumference increases by an average of 2.3 cm (from 49.3 ± 1.2 to 51.6 ± 0.9 cm) [4].

It is determined that with age, sex differences manifest themselves more significantly. In boys, the growth of the head circumference occurs evenly, and in girls – abruptly, especially at the age of 8.

The studies provide information on changes in the longitudinal, transverse and height dimensions of the skull and head circumference in girls from 8 to 12 years of age of children from Samarkand.

Children of the Andijan region aged 3-7 years, the chest circumference of all measured boys is greater than that of girls. The most intensive growth at the level of the nipple in girls is observed at 4 years and 7 years, and in boys 7 years, at the level of the armpit in girls 4-6 years, and in boys 5-7 years. In boys aged 3-7 years, the transverse size of the chest is larger at all levels than in girls [5.6].

The circumference of the chest in girls of the Tashkent region slows down at 8-9 years and at 11-12 years. A significant increase in the circumference of the chest of girls is determined in 7-8 and 12-13 years. The transverse diameter of the chest grows more rapidly and increases by 42% (17.2 ± 0.3 cm at 7 years and 26.7 ± 0.38 cm at 16 years). The antero-posterior diameter of the chest increases uniformly by 23% in the studied periods. In the studied time periods, a significant increase in the transverse dimensions of the chest compared to the anterior-posterior dimensions occurs due to an increase in lung volume and the development of chest muscle mass [3].

In girls from 8 to 12 years of age in Samarkand, chest parameters were measured in pause and at exhalation height. However, it should be noted that there is no comparable analysis by year in the work [2].

Anatomical and anthropometric variability of the body in girls found that the body length averaged 3.5 cm, the weight remained at 56 kg, the circumference of the chest had a tendency to decrease. The tendency to decrease the transverse and anterior-posterior diameters of the chest was revealed [1].

Our opinions differ from the data [4,5], which indicate that in patients with cerebral palsy, the rectus femoris muscle is in a state of increased tone, which leads to a shortening of the hip, to pronounced fragmentation of the tuberosity of the tibia and a change in the shape and position of the patella.

The circumference parameters of the upper and lower extremities in healthy and in children with cerebral palsy are smaller on the left side. In addition, this parameter in all age groups in children with cerebral palsy is less than in healthy ones.

Studies have shown that in the diplegic form of cerebral palsy, limb parameters suffer more. Our data prove that the pathological focus in the brain is often located one-sidedly, and these data coincide according to [6], which indicates that in spastic diplegia there is an asymmetry of the main rhythms of alpha activity. Hemispheric asymmetry, regional asymmetry of bioelectric brain activity on electroencephalography.

In the literature available to us, we have not found specific data on the anthropometric parameters of the upper and lower extremities, chest and other parts of the body of children with cerebral palsy for comparison with our data.

The growth of children in males of the first period of childhood increases by 1.32 times, in females by 1.38 times; body weight in the first period increases by 1.57 times, and in females by 1.72 times.

The growth of children in males and females of the second period of childhood increases equally; body weight in the second period in boys increases by 1.74 times, and in females by 1.63 times. The intersection of growth parameters between these two groups occurs at 5, 6, 7, 9 and 10 years, and the intersection of body weight parameters is observed at 4, 8, 9 and 11 years. Growth in children with cerebral palsy in all age groups is less than in healthy children. In male patients with cerebral palsy, body length at the age of 12 lags by 19.6 cm compared to healthy, and in female patients by 15.3 cm. Body weight in children with cerebral palsy varies unevenly. The lowest growth rate was observed in males with cerebral palsy at the age of 6 and 9, and in females at the age of 6, 9 and 11. The body weight of males with cerebral palsy at 12 years of age is 14.9 kg less than in healthy individuals, and 10.5 kg less in females.

USED LITERATURE

1. Teshaev Sh.J, Idiev O.E. Morphological and functional State of the jaw facial area and chewing muscles in children with cerebral palsy Academia (India) An International Multidisciplinary Research Journal., 2020., Vol. 10., Issn: 2249-7137 Vol. 9 Issue 12, December 2019 Impact Factor: Sijf 2018 = 6.152
2. Idiev O.E. Morphological and functional state of the jaw facial area and chewing muscles in children with cerebral palsy. Berlin 15.03.2020n Isbn: 978-83-66401-39-6 Science, Research, Development №26/8
3. Idiev O. E., Uktamova R. U, Teshaeva D. Sh. Morphometric Parameters Of The Cranofacial Region Of Children With Cerebral Palsy. // Journal. Tibbietda Yangi Kun. 2/1(30/1)2020, 172 Bet
4. O.E. Idiev Evaluation of Electromyographic studies of masticatory muscles in Children with Cerebral Palsy 46-48 Mar 24, 2021
5. O. E. Idiev Maxillofacial Region in Children with Cerebral Palsy Published: Jun 21, 2021 Volume 13, June 2021
6. E. Idiev Cerebral Palsy and Dental Anomalies 350-355 O. Read Statistic: 13.28.04.2021